

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-000260**Date Inspected:** 26-Jun-2007**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:****CWI Present:****Yes No****Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Review of Radiographs for Welder Qualification**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Robert Cuellar is present at the fabrication facility of Zhenhua Port Machinery Company (ZPMC), LTD for the purpose of monitoring activities relative to the subsequent fabrication of the SFOBB Self Anchored Suspension Bridge. The Caltrans QA Inspector was presented with radiographs for review from Nate Lindell of ABF on Monday June 25th, 2007. The Caltrans QA Inspector performed the review of ninety-nine (99) Welder/ Welding operator qualification radiographs and recorded the following information,

Submerged Arc Welding (SAW) Operator Radiograph Review**SAW Operator Identification #**

070601256

070601258

070601263

070601264

070601005

070601006

070601007

070601008

070601009

070601010

070601011

070601013

Observation

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Non-Compliant as Reported by ZPMC due to linear Indications

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

Complies with AWS D1.5 (2002)

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070601014	Complies with AWS D1.5 (2002)
070601015	Non-Compliant due to film processing blemishes as reported by Nate Lindell of ABF
070601017	Complies with AWS D1.5 (2002)
070601018	Complies with AWS D1.5 (2002)
070601019	Complies with AWS D1.5 (2002)
070601020	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Not addressed by ZPMC or ABF.
070601021	Non-Compliant as Reported by ZPMC due to linear Indications

Shielded Metal Arc Welding (SMAW) & Flux Cored Arc Welding (FCAW) Radiograph Review

SMAW or FCAW-Welder Identification #	Observation
070601217	Complies with AWS D1.5 (2002)
070601218	Complies with AWS D1.5 (2002)
070601221	Complies with AWS D1.5 (2002)
070601224	Complies with AWS D1.5 (2002)
070601225	Complies with AWS D1.5 (2002)
070601226	Complies with AWS D1.5 (2002)
070601229	Non-Compliant due to density being lower than 2.0 as reported by ABF Representative Mr. Nate Lindell
070601231	Complies with AWS D1.5 (2002)
070601233	Complies with AWS D1.5 (2002)
070601234	Complies with AWS D1.5 (2002)
070601235	Complies with AWS D1.5 (2002)
070601236	Complies with AWS D1.5 (2002)
070601237	Complies with AWS D1.5 (2002)
070601238	Complies with AWS D1.5 (2002)
070601240	Complies with AWS D1.5 (2002)
070601241	Complies with AWS D1.5 (2002)
070601245	Complies with AWS D1.5 (2002)
070601246	Complies with AWS D1.5 (2002)
070601250	Complies with AWS D1.5 (2002)
070601252	Non-Compliant as Reported by ZPMC due to linear Indications
070601184	Complies with AWS D1.5 (2002)
070601187	Complies with AWS D1.5 (2002)
070601188	Complies with AWS D1.5 (2002)
070601189	Complies with AWS D1.5 (2002)
070601196	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Not addressed by ZPMC or ABF.
070601062	Complies with AWS D1.5 (2002)
070601063	Complies with AWS D1.5 (2002)
070601065	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Not addressed by ZPMC or ABF.
070601066	Non-Compliant due to full length linear indication. Undetermined if due to lack of

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grinding weld cap reinforcement or not. Not addressed by ZPMC or ABF.

070601069	Complies with AWS D1.5 (2002)
070601072	Non-Compliant due to a 40mm long linear indication. ZPMC and ABF did not address.
070601073	Non-Compliant due to a 50mm long linear indication. ZPMC and ABF did not address.
070601203	Complies with AWS D1.5(2002)
070601204	Complies with AWS D1.5 (2002)
070601207	Non-Compliant as Reported by ZPMC due to linear Indications
070601208	Complies with AWS D1.5(2002)
070601209	Complies with AWS D1.5(2002)
070601210	Complies with AWS D1.5(2002)
070601212	Complies with AWS D1.5(2002)
070601216	Complies with AWS D1.5(2002)
070601102	Complies with AWS D1.5(2002)
070601104	Complies with AWS D1.5(2002)
070601107	Complies with AWS D1.5(2002)
070601109	Complies with AWS D1.5(2002)
070601112	Complies with AWS D1.5(2002)
070601114	Complies with AWS D1.5(2002)
070601116	Complies with AWS D1.5(2002)
070601117	Non-Compliant as Reported by ZPMC due to linear Indications
070601118	Complies with AWS D1.5(2002)
070601121	Complies with AWS D1.5(2002)
070601122	Complies with AWS D1.5(2002)
070601123	Non-Compliant due to a 12mm long linear indication. ZPMC and ABF did not address.
070601124	Complies with AWS D1.5(2002)
070601126	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Not addressed by ZPMC or ABF.
070601127	Complies with AWS D1.5(2002)
070601130	Complies with AWS D1.5(2002)
070601131	Complies with AWS D1.5(2002)
070601132	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Identified and Addressed by ABF representative Mr. Nate Lindell.
070601133	Complies with AWS D1.5(2002)
070601134	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Identified and Addressed by ABF representative Mr. Nate Lindell.
070601137	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Identified and Addressed by ABF representative Mr. Nate Lindell.
070601138	Complies with AWS D1.5(2002)
070601140	Complies with AWS D1.5(2002)
070601158	Complies with AWS D1.5(2002)
070601159	Complies with AWS D1.5(2002)

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070601160		Complies with AWS D1.5(2002)
070601164		Complies with AWS D1.5(2002)
070601165		Complies with AWS D1.5(2002)
070601166	Non-Compliant due to full length linear indication. Undetermined if due to lack of grinding weld cap reinforcement or not. Identified and Addressed by ABF representative Mr. Nate Lindell.	
070601167		Complies with AWS D1.5(2002)
070601168		Complies with AWS D1.5(2002)
070601170		Complies with AWS D1.5(2002)
070601171		Complies with AWS D1.5(2002)
070601172		Complies with AWS D1.5(2002)
070601173		Complies with AWS D1.5(2002)
070601174		Complies with AWS D1.5(2002)
070601178	Non-Compliant due to density being lower than 2.0 as reported by ABF Representative Mr. Nate Lindell	
070601179		Complies with AWS D1.5(2002)
070601181		Complies with AWS D1.5(2002)
070601182		Complies with AWS D1.5(2002)

The review results of these radiographs performed by the Caltrans QA Inspector is currently pending discussion with ZPMC representative Mr. Lu Jian Hua and ABF representative Mr. Nate Lindell. ZPMC has previously advised that the radiographs for the welder/ welding operator qualification tests that have been found to be compliant will proceed to subsequent side bend testing.

Summary of Conversations:

The Caltrans QA Inspector was present for the daily morning meeting between ZPMC, ABF and Caltrans on-site representatives. This meeting serves for the purpose of addressing scheduled activities for each date.

- 1) ZPMC Mr. Lu Jian Hua advised the group of the continuation of ZPMC procedure qualification record test HP2007153 that should complete today. Lu Jian Hua added that another 90 mm thick PQR test will also be started today.
- 2) Mr. Nate Lindell voiced concern in regards to the PQR test plate lengths and whether or not ZPMC had provided adequate plate to include run-on and run off tabs for the PQR test plate assemblies. Lu Jian Hua responded that ZPMC PQR test HP2007153 is of a 702mm length and is of a sufficient length for run-on, run-off tabs.
- 3) The group discussed welder qualification testing for welders scheduled for use on the welding of closed ribs for the project. Nate Lindell voiced that daily welder qualification tests need to be performed for the closed rib welders as required by the project Special Provisions. Mr. Lu Jian Hua presented an expression of surprise upon hearing this from Mr. Nate Lindell. The group agreed that a ZPMC document should be created to reflect which welders are qualified for welding closed ribs on a daily basis. Mr Lu Jian Hua requested an electronic e-mail from Mr. Nate Lindell, which contains wording for this requirement.
- 4) Lu Jian Hua voiced that radiographic testing will be performed on a 90mm thick PQR test plate in Shanghai. Mr. Lu Jian Hua did not know exactly when this PQR test plate would be radiographic tested. Nate Lindell voiced that ABF requires a two day notice prior to such radiographic testing for the purpose of scheduling.
- 5) Welder Qualification radiographic testing. Lu Jian Hua voiced that radiographic testing would be performed at 1000 today. Mr. Nate Lindell and Caltrans representative Mr. Dave McClary are scheduled to be present for the purpose of observing radiographic testing techniques and equipment being used for such testing.

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6) Mr. Nate Lindell voiced if ZPMC had any additional welder qualification radiographs for review. Mr. Lu Jian Hua responded, No. Nate Lindell voiced that ZPMC should attempt to provide daily radiograph groups of radiographs for review rather than the recently submitted group of one hundred (100) radiographs.

7) Mr. Ady Velasco of Caltrans OSM questioned if ZPMC intends to run the closed rib forming trials on the projected date of early July. ZPMC representative Mr. Lu Jian Hua voiced that early July is a possible date. Mr. Ady Velasco voiced that the scheduling of the rib forming trials was important for Caltrans so that others could coordinate there presence.

8) Mr. Ady Velasco voiced that Caltrans in the USA pier seven, was hearing that ZPMC is scheduling the cutting of steel for the tower mock-up during early July. Lu Jian Hua voiced that this date was possible.

9) Mr. Dave Williams of ABF voiced that ZPMC needs to go forward with the verification of steel plate for the mock-ups scheduled for the project. Mr. Dave Williams added that ABF and ZPMC are currently in process of verifying steel plate prior to presenting it to Caltrans on-site.

10) Mr Dave McClary questioned ZPMC as to whether or not they will disseminate Caltrans approved drawings to shop personell. Mr. Lu Jian Hua of ZPMC responded that yes ZPMC will disseminate Caltrans approved drawings to the shop areas.

11) Mr Nate Lindell of ABF voiced that it would be preferred if ZPMC could arrange a meeting with ZPMZs consulting ASNT Level III, Mr. Stephen Gang to address the status of the closed rib partial joint penetration groove weld ultrasonic testing procedure. Mr. Lu Jian Hua voiced that he would arrange a meeting with Mr. Stephen Gang on Wednesday June 27th, 2007.

A manual record of the items listed above is being maintained on-site by Caltrans OSM.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Cuellar,Robert	Quality Assurance Inspector
Reviewed By:	McClary,David	QA Reviewer
